## Kurzbeschreibung des Projekthemas

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| Projektthema | Resting Heart Rate in relation to postural changes in Systolic Blood pressure in the NAKO-pretest and MetScan studies. |
| Projektbeschreibung | Increases and decreases in the response of systolic blood pressure (SBP) to a change in body position have been associated with incident hypertension, stroke and all-cause mortality. Information on the predisposing factors for subtle postural changes in SBP is scarce. Resting heart rate (HR) is considered as a marker of autonomic nervous system activity and it is correlated with physical fitness. Subtle postural changes in SBP in relation to resting HR has rarely been described.  

This project will aim to:  
- Estimate the reliability of resting and standing HR measurements in the NAKO pretest and MetScan studies  
- Test the hypothesis that postural changes in SBP differ according to resting HR  
- Characterize the postural SBP and HR responses according to resting HR  
- Describe if postural changes in SBP according to resting HR differ with age and sex  

NAKO-pretest is a population-based cross-sectional study conducted during the period of May 2012 to April 2013, in order to implement standardized study protocols and build infrastructure in the NAKO cohort. ([https://www.mdc-berlin.de/nako-health-study](https://www.mdc-berlin.de/nako-health-study)).  
The cross-sectional MetScan study was established to investigate whether the metabolic syndrome and its parameters can be better predicted using a 3D body surface scanner, as compared to using traditional recording methods. Participants were recruited between February 2016 and June 2017 ([https://www.nature.com/articles/s41598-020-66095-6](https://www.nature.com/articles/s41598-020-66095-6)).  
The thesis will include data from 653 study participants of the NAKO-pretest (Berlin-Brandenburg cluster area) and 516 participants from the MetScan study, who filled out questionnaires to assess various exposures and underwent physical examination that included an extended blood pressure measurement protocol.
<table>
<thead>
<tr>
<th>Aufgaben (Umfang 140 Stunden)</th>
<th>Literature research; Development of research question/hypotheses; Preparation of an analysis plan; quality control, data analysis, interpretation and reporting; Familiarization with software (SAS) for data analysis</th>
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</thead>
<tbody>
<tr>
<td>Anzahl der Projektplätze</td>
<td>1</td>
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